

1 Claims

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- 3 1. Circuit configuration for recognizing the occupancy of a
4 seat and seatbelt warning in a motor vehicle having
5 weight-sensitive resistance elements (R1, R2, R3, R_SBR_1,
6 R_SBR_2) arranged in a separated and flat manner on a
7 vehicle seat (2), in which
8 - the weight-sensitive resistance elements (R1, R2, R3,
9 R_SBR_1, R_SBR_2) have first resistance elements R1, R2,
10 R3 and additional resistance elements (R_SBR_1, R_SBR_2)
11 and
12 - the first resistance elements (R1, R2, R3) are connected
13 to one another in parallel within a first measuring
14 circuit between a first measuring connection (C1) and a
15 second measuring connection (C2),
16 **characterized in that** a first additional resistance element
17 (R_SBR_1) is connected in a second measuring circuit between
18 the first measuring connection (C1) and a third measuring
19 connection (C3), and a second additional resistance element
20 (R_SBR_2) is connected in a third measuring circuit between
21 the second measuring connection (C2) and a fourth measuring
22 connection (C4).
23
- 24 2. Circuit configuration according to Claim 1, **characterized**
25 **in that** the first resistance elements (R1, R2, R3), being
26 sensor elements for recognizing seat occupancy, and the
27 additional resistance elements (R_SBR_1, R_SBR_2), being
28 sensor elements for seatbelt warning, are arranged on a
29 common sensor seating mat (PPD) for recognizing seat
30 occupancy and seatbelt warning in a motor vehicle.
31
- 32 3. Circuit configuration according to one of the Claims 1 or
33 2, **characterized in that** a first diagnostic resistor (R_D_1)

1 is arranged parallel to the first additional resistance
2 element (R_SBR_1) and a second diagnostic resistor (R_D_2) is
3 arranged parallel to the second additional resistance element
4 (R_SBR_2).

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6 4. Circuit configuration according to Claim 2, **characterized**
7 **in that**

- 8 - the sensor seating mat (PPD) has a first and a second
9 backing film (PPD1, PPD2) kept apart from one another by
10 spacers (9),
11 - a sensor element for recognizing seat occupancy (R1, R2,
12 R3) has two opposite conducting structures (3, 4), one of
13 these being arranged on the first backing film (PPD1) and
14 the second being arranged on the second backing film
15 (PPD2), each conducting structure (3, 4) having electrical
16 connections (31, 32, 41, 42) at both ends, and the two
17 conducting structures (3, 4) being able to make electrical
18 contact when a force is exerted on the backing films (PPD1,
19 PPD2),
20 - the first connection (31) of the first conducting structure
21 (3) is connected to the first measuring connection (C1) and
22 the second connection (32) of the first conducting
23 structure (3) is connected to the third measuring
24 connection (C3) and
25 - the first connection (41) of the second conducting
26 structure (4) is connected to the fourth measuring
27 connection (C4) and the second connection (42) of the
28 second conducting structure (4) is connected to the second
29 measuring connection (C2).